GIBNEY (V. P.)

SPRAINED ANKLE.

A Treatment that involves no Loss of Time, requires no Crutches, and is not attended with any Ultimate Impairment of Function.

BY

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A TREATMENT THAT INVOLVES NO LOSS OF TIME,
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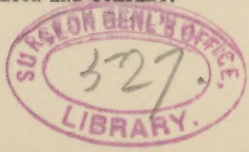
By V. P. GIBNEY, M.D.,
SURGEON IN CHIEF TO THE HOSPITAL FOR THE RUPTURED AND CRIPPLED.

In the January issue of the *New York Polyclinic* for 1893 the writer published a paper entitled The Modern Treatment of Sprained Ankle. The interest awakened in the profession by the publication of a method of treatment so simple and so efficient prompts him to make a still further communication. A number of letters asking for more explicit details, mildly criticising the style of the writer, have called for this second edition, which is now presented in the hope that the method advocated may prove as serviceable to the members of the profession as it has to the many who have made themselves familiar with its application.

As stated in 1893, no claim is made to any priority. The aim has been simply to present a method which was first employed, so far as one can learn, by Mr. Edward Cotterell, of London.

Dr. William R. Davis, captain, medical corps of the United States army, was the gentleman who first called



my attention to this treatment in 1888, and I should have given him credit for this in Case I of the paper published in the *New York Polyclinic*, and my only apology for not doing so at the time is that, when I made the report, I had forgotten the initials of the surgeon and also the post at which he was stationed. He assured me at that time that it was not an uncommon thing at the post to put up the sprained ankles of soldiers in this way, and that prompt relief always followed. In a recent conversation with this gentleman he confirms the report then made, and it gives me great pleasure, therefore, to acknowledge an indebtedness so tardily made.

As a preliminary, I can not do better than quote from my former article, as follows:

"I had learned to look upon a sprain as a kind of mystery involving a laceration of fibrous structures about the joint, 'a rupture of the ligament or ligaments,' sometimes a tenosynovitis, sometimes a contusion of the cartilage, but was never able to say which was which, and was inclined to look with a certain degree of admiration or pity on the man who was able to say that this ligament or that ligament was torn or detached from the bone, and I treated my cases as most men do to-day, by fomentations for a little while, then plaster-of-Paris bandage or silicate of sodium, rest on axillary crutches, subsequent rubbing and massage, etc. I confess I was never enamored of this treatment, and I had a grave apprehension always when I took charge of a case, lest I should get a stiffish joint following treatment, an irritable joint—one very much like the joints left after tuberculous disease in children where suppuration has not been a part of the disease. The external features of a sprain, the signs, were always very well pronounced. One could see the puffiness in the neighborhood of the malleolus or over the dorsum of the foot, the localized swelling with extra heat, and sometimes ecchymosis. I was brought to a knowledge of the treatment I am to describe later by the following case."

The illustrations now presented will give one, I think, a fair idea of the details of the dressing. For instance, in Fig. 1 the first strips are applied for a sprain about the external malleolus. It will be seen that a strip of rubber plaster, about twelve inches in length, is applied, beginning at the outer border of the foot, near the little toe, and ending on the inner side of the foot, about its middle, just under the plantar arch. The second strip is applied vertically, and passes from about the junction of the middle with the lower third of the leg, down alongside the tendo

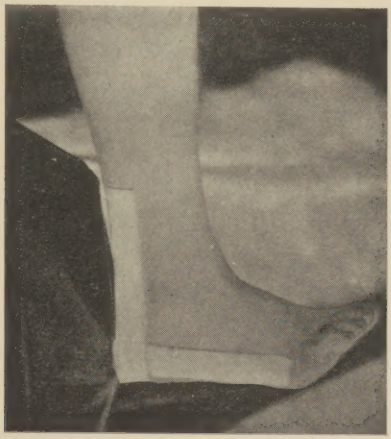


Fig. 1.

Achillis, over the heel, and terminating at a point just above the internal malleolus, but posterior to this.

These strips, by the way, are best shown in Fig. 3, as they hang from a chair or table, and were photographed merely to show about the width and length of the strips as cut. It is not necessary, however, to cut the strips from a sheet of plaster, but they can be easily cut from a spool on which the plaster is rolled any desired length.

The remaining strips are applied in the same way, one overlapping the other about one half, until the whole external malleolus and side of the foot up to the middle third of the leg is covered, as shown in Fig. 2. It is well

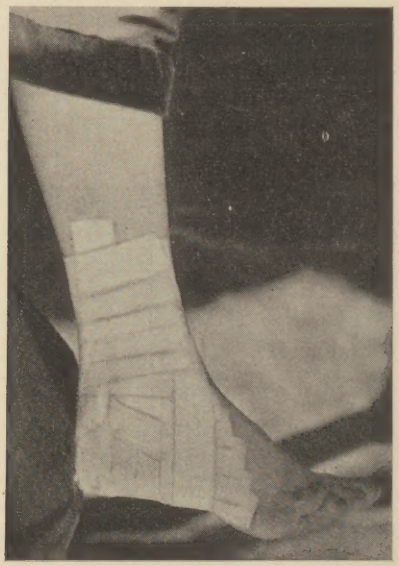


Fig. 2.

to re-enforce just under the malleolus by strips passing criss-cross, so as to give additional support to the part sprained. It is also important to have the strips well overlap each other, especially over the tendo Achillis and about the heel, as any slipping at these points may cause an unnecessary irritation when the boot is applied. The front of the foot with the plaster strips applied is shown also in Fig. 3 on the same plate showing the strips. It will be seen that care has been taken not to completely

encircle the ankle, but to leave a space, so that all constriction may be avoided. Fig. 3, therefore, shows the front of the foot with the strips applied to the ankle, shows also

FIG. 3.

the strips hanging upon a table or a board, and ought to be sufficiently clear to enable any one to complete the dressing.

Where the sprain involves the tarsal joint itself, or the midtarsal joint, and where the whole foot is involved in the swelling, the first strips are shown in Fig. 4. The first one starts on the inner side of the heel, passes back

of the heel, below the external malleolus, over the dorsum of the foot, and terminates just under the ball of the great toe. The second one is started just under the external malleolus, passes over the back of the heel, over the front of the foot, and terminates just under the

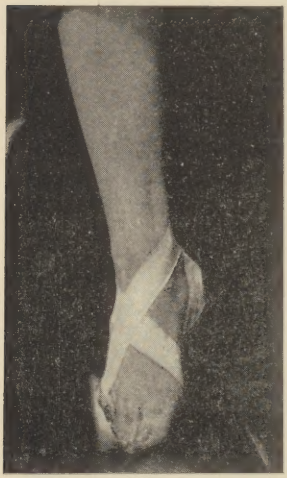


FIG. 4.

FIG. 5.

outer side of the foot, near the small toe. Fig. 5 shows the complete dressing for a sprain of the kind just described. I sometimes apply extra strips up and down over the tendo Achillis, the ends terminating in the sole of the foot. This precaution I have found necessary to avoid any slipping of the strips about the heel. Over the ankle thus strapped a cheese-cloth bandage is snugly applied, beginning at the ball of the foot and extending up to the middle third of the leg. In cases where the toes are much swollen and where the whole ankle must be strapped, and

where it is impossible to leave any space uncovered, every toe should be strapped separately before the ankle dressing is applied. This precaution is necessary to avoid swelling of the toes and insure additional comfort to the patient.

Before any strips of plaster are applied, it is good practice to elevate the foot overnight or for a few hours and employ immediate massage of the parts for a few minutes, then apply a roller bandage until one is ready to adjust the dressing. As a matter of fact, however, this precaution is seldom taken, because patients who have come under my care have generally had some preliminary treatment, and the temptation to put them on their feet at once is so great that it is difficult to resist the immediate dressing of the parts. The cases reported bear me out in this statement, and will convince, I think, the reader that the procedure just mentioned is of little importance.

The following cases recorded merely illustrate the efficiency of the treatment in the different classes of sprains that come under one's observation:

Case I.—A clergyman, thirty-nine years of age, from New Jersey, came into my office on the 13th of August, 1894, on crutches, and complaining of pain about the outer side of his ankle and across his instep. I made out as diagnosis a chronic sprain, or, more properly speaking, a subacute tenosynovitis of the peroneal tendon of the left ankle.

The history he gave was that about three months prior to this date he turned on his left ankle and wrenched the ligaments about his external malleolus. The shock was quite severe at the time. The ankle was soon put up in plaster of Paris, which remained on for two or three weeks. Bandaging was resorted to subsequently, rubbing every day, and at the time he came under my care I found a little tenderness and thickening just below the external malleolus and over the cuboid. Any attempt at adduction of the foot produced pain. There was very

little extra heat. The other movements of the joint were good. He wore an elastic anklet. This was removed, and the parts were well strapped in accordance with the illustration as shown in Fig. 1. He was urged to discontinue his crutches and to use the foot moderately.

I saw him again on the 29th of August. He was then without crutches, and reported that he had been walking with scarcely any difficulty. He looked upon the relief simply as marvelous. I strapped the parts, though over a smaller area, and referred him to his family physician with the request that he restrap if it were found necessary. The reports subsequently are that he has made a perfect recovery.

Case II.—A gentleman, sixty years of age, living in this city, was referred to me on the 28th of April, 1893. The diagnosis made was sprain of the left ankle, chiefly confined to the lateral ligaments about the external malleolus.

The history he gave was as follows: Four days previously, while walking the streets in Washington, he stepped upon a small round stone, bringing the shank of his shoe against it, and his foot turned quickly, straining the ligaments on the outer side. He rested for a day or two and had a surgeon in Washington see him, who reported that it was not necessary to do much for the case, that it would soon get well, and that he had better lie up for a few days. He applied some lotions, and after a day or two went to Baltimore, where he walked about a good deal, and returned home with his ankle very much swollen and unable to get about without great difficulty.

At the time of my examination the parts were very much swollen from the base of the toes to the upper third of the calf. The contours of the malleoli were completely effaced. The point of greatest tenderness was about the external malleolus and a little posteriorly. Careful examination revealed no evidence of fracture or dislocation. There was no fluctuation anywhere, simply an œdematous foot.

I had him recline on a couch with his foot well elevated and instructed one of his male servants how to rub the foot. Two hours later I applied the dressing as shown in Figs. 4 and 5. On account of his size I took special pains to re-enforce the parts

under the malleoli. I made him put his stocking and boot on while I waited. In accordance with my custom I had him walk at once eight or ten laps around the room. He rebelled strenuously at first, but after two or three turns expressed himself as feeling remarkably well. Before I left the house he was walking with scarcely any lameness, as I had instructed him to walk rhythmically and do his best to dispense with the limp. He was desirous of going on a fishing excursion the next day, and to this I gave consent.

I saw him again on the 2d of May. He reported that he had had little or no pain in his ankle since the adhesive strips were applied; that he went fishing on the 29th, but had encountered an easterly wind, sat in the boat, got cold and very chilly, and was cramped a good deal. The next day he complained of pain in his knees and was quite lame.

I found no swelling in the knees, yet I advised salicylate of sodium and hot fomentations. On removing the adhesive strips I found the swelling reduced to a minimum. In fact, there was scarcely any swelling to be seen. A little thickening remained about the external malleolus.

I restrapped, leaving the toes uncovered. I failed to mention in the foregoing that I found it necessary to strap the toes at the first dressing by reason of the great swelling. He went down town to his business.

I saw him again on the 9th of May, and was able to discharge the case as cured. I have had an opportunity of seeing him from time to time, and there has not been any relapse or any impairment of function.

Case III.—A lady, eighteen years of age, was referred to me by some friends on the 18th of September, 1894. I found a sprain of the left ankle with this history: That four weeks before she sprained the ankle by turning on it. She consulted a physician in a neighboring State, who assured her that there was quite a severe laceration of the structures about the inner side of the ankle. Splints were employed, and a few days later hot and cold douches were substituted.

She came to me then, at the end of four weeks, walking on crutches. I found tenderness on pressure over the joint in

front and to the inner side. There was no swelling of any account. The functions of the joint were limited about one half. The parts were strapped, and she was urged to use the limb and dispense with crutches.

I saw her again on the 24th of September, and she reported herself as very much relieved. She had not used the crutches. A similar strapping was applied, and again on the 11th of October I made a note that she had about recovered. She was able to walk long distances without pain or discomfort, moved the foot in all directions normally; was unable to spring as well on this foot, however, as on the other. She had attempted dancing, and found it a little difficult. I assured her that she would soon be able to dance, applied some small strips about the external malleolus, directed her to wear these for five or six weeks, and permitted her to use low shoes. She made an uneventful recovery.

Case IV.—A lady, about forty years of age, rather stout, from the northern part of the State, was referred to me on the 6th of April by Dr. Willis Ford, of Utica. I found a rather diffuse sprain of the left ankle, the chief point of injury on the outer side.

The day before, while getting out of a carriage, she turned on her ankle and came with her full weight upon the twisted foot. She suffered, of course, a great deal, fainted, and was seen by Dr. Ford, who applied, after a little while, the adhesive strips. As she was coming to New York the next day, he advised her, however, to see me on her arrival in the city. It was difficult, he reported, to get the foot in good position, and he was not satisfied with the dressing as applied.

I found her with the strapping very neatly applied, but with the heel a little too much raised. I took the dressing off and found no ecchymosis, but a swelling about the external malleolus. I made a pretty careful examination in order to exclude fracture or dislocation.

The lady was extremely desirous of sailing for Europe the next morning, and after getting her foot into good position and strapping it well, I urged her to walk about the floor, which she

did. I had no hesitation, therefore, in assuring her that she could sail, and that she would make a good recovery.

On the 30th of May, 1894, her brother, one of the most distinguished physicians in this country, reported to me in Washington that he had just received a letter from his sister, in which she stated that she had come to regard the age of miracles as passed, but that since her ankle had been strapped and she had gone to Europe she believed that miracles were still being wrought; that she had had no pain or discomfort whatever in crossing the Atlantic; that she landed and was able to walk with very little disability, and to show how complete her relief was, that she had just made an ascent of Vesuvius and back, feeling almost perfectly well.

Case V.—On the 22d of May, 1893, a gentleman, fifty-three years of age, from New Jersey, was brought to me by Dr. John A. Wells, of Englewood. The diagnosis was of a chronic sprain of the left ankle, with a subacute arthritis of the knee, secondary to a fracture of the tibia.

The history given was this: Three months prior to the date of his visit he fell and fractured the left tibia. There was a little overriding. A doctor was found at the time, and the foot was severely wrenched. He put the whole limb up in a fracture box. At the end of a month, when he was about taking it out, the patient, while getting out of bed, strained his left knee rather sharply, and almost immediately there was swelling in the popliteal space. This continued for three or four weeks rather acutely, and the plaster bandage was applied. The fracture was found to have united in a straight line, but a good deal of thickening remained about the ankle. At the end of two months the dressings were taken off. He was put on a pair of crutches, since which time he had been going about with very little pain and progressive improvement, but it was rather slow. In a previous consultation plaster of Paris was again advised for his ankle, but the patient objected so much to this that Dr. Wells determined to consult an orthopædic surgeon, and hence his visit to me.

I found that the knee presented some thickening around the patella and across either side of the ligamentum patellæ, with

tenderness just over the articular side of the tibia. There was some tenderness in the popliteal space. He could flex the knee to ninety degrees easily and extend to one hundred and eighty degrees. As the knee was moved in flexion and extension there was a rice-body sensation imparted to one's hand, but there was very little extra heat about the joint. When he put any weight on the foot he complained of pain running along the instep, and he found it exceedingly difficult to walk. The right ankle measured, just over the malleoli, ten inches: over heel and instep, twelve inches and a half: over instep, nine inches and three quarters. The left, at the corresponding points, nine inches and three quarters, twelve inches and three quarters, and ten inches.

I strapped the ankle for a general sprain, and also strapped the knee. Dr. Wells was very much impressed with the treatment, and agreed to continue the same until a cure resulted.

On July 11, 1893, I find this report on my notes: "Two or three weeks ago the wife called to report that the recovery was about complete; that the adhesive plasters worked like a charm." During the month of December, 1894, now less than a month ago, I casually met Dr. Wells, who reported that the cure in this case was perfect, and that he had treated a large number of cases since that date after the same plan, with uniformly good results.

Case VI.—While dining out on the 22d of January, 1893, a letter came to me from a gentleman, asking that I come to his hotel and treat his sprained ankle. In the letter he stated that his friends, who had advised him to call upon me, assured him that he could go to his business on the following day if I should see him that evening. With such an introduction I proceeded after dinner to the hotel, and found a gentleman, forty-one years of age and a lawyer by profession, suffering from a sprain of the left ankle of two weeks' duration. The ankle was incased in a starch bandage, and he had been using crutches for the past week or ten days.

He acquired the sprain by stepping off a car and turning on his ankle rather sharply. The pain was not great that night, but the following day it was much swollen on the outer side.

The opinion was given that day by his physician that he was suffering from a greenstick fracture. The diagnosis was accepted by another physician, who applied a starch bandage and had had him under observation up to the time I was called to see the case.

On removing the bandage, I found that he could move the foot in flexion and extension quite easily and with very little pain, but there existed a tendinous click in the course of the anterior tibial. There was also much tenderness just above the external malleolus and along the fibula. I found no evidence of fracture. There was some swelling and thickening below the malleolus.

The parts were well shaved, rubbed a while, and then strapped with adhesive plasters. He went to his business the next day, and a letter on the 25th of January reported that he was getting on so well that he thought it unnecessary to call. I did see him on the 28th of January, when I found the cure about complete. He made a good recovery, and up to the present time report comes that he has remained quite well.

Case VII.—A lady, about eighteen years of age, was referred to me by Dr. William K. Draper, who represented Dr. Kinnicutt in his absence from the city.

The history given was this: That nine weeks previously, while in the country, she jumped from a rock about fourteen feet in height and turned as she came to the ground, spraining her left ankle. She was completely disabled by the injury, and in a day or two the foot and leg were swollen from the toes to the head of the tibia. There was considerable ecchymosis on both sides of the foot, and especially over the dorsum. She had had the stereotyped treatment for sprains—hot and cold douches, rest, crutches, etc.

I found the foot bandaged from the toes to the head of the tibia. She was able to flex and extend fairly well, but could not flex quite up to ninety degrees without pain. The pain referred to was felt about the insertion of the tendo Achillis. If she extended the foot fully, she complained of pain in the front, just over the head of the astragalus. The normal depressions under the malleoli were filled with a little infiltration. I could

detect no callus anywhere. There was certainly no dislocation. All the toes were very much swollen.

I proceeded at once to strap the individual toes firmly, then strap the whole foot and ankle up to the junction of the middle with the lower third of the calf, aiming to get the foot in as good position as possible and re-enforcing along the malleoli. I had her put on a laced boot at once, and let her walk eight or ten times around the floor. Before the walk was completed she asked to go into the parlor and assist her sisters in entertaining some company. I assured her that she might go out on the morrow for a walk.

On October 15th there was scarcely any swelling about the foot or toes. The parts were restrapped, this time the strapping of the toes omitted. The following notes were made on the 5th of January, 1895: "She reports to-day, and is discharged cured. She has been dancing whenever occasion offered, and the occasions have been rather frequent. She reports that she feels better for the exercise. The plasters are all off. There is no tenderness about the insertion of the tendo Achillis, none over the astragalus. In other words, the functions of the foot are perfect.

Case VIII.—On the 25th of December, 1893, a gentleman quite prominent in political circles, thirty-nine years of age, came to me with a tenosynovitis affecting the anterior tibial group, right side.

The history he gave was as follows: "About a week or ten days ago, while walking, he turned on his foot, and it felt a little sore the next day, not at the time. He was horseback-riding a day or two afterward, and this seemed to bring on pain. Within the last day or two he has been pretty lame, and noticed some swelling along his shin."

My examination revealed a thickening along the crest of the tibia—lower portion—a little œdema over the muscle, some extra heat, and a little crepitation as he brought the anterior tibial into play. It pained him to flex and extend. Active and passive movements gave no pain. There was no part of the joint involved.

The parts along the anterior surface of the leg, from the

foot to the upper third of the leg, were strapped with adhesive plasters, criss-cross, and a snug roller over all this. He was advised to use his feet naturally, but not to stretch the muscle by too much flexion or extension.

I find on my notes, under January 20, 1894, the following: "He called about ten days after the first visit, and was practically well. There was no tenderness. He could flex and extend the foot very easily. The adhesive strips were taken off and a short stockinet bandage applied." He promised to report if all did not go well. Has not reported. On January 31, 1894, I saw him on the street, and he reported himself as perfectly well.

My brother, Dr. Homer W. Gibney, served a year on the ambulance at the Roosevelt Hospital, and frequently had occasion, both on the ambulance and in the outdoor department of the hospital, to apply this dressing to sprained ankles. At my request he has furnished me with a few cases, brief notes of which are here appended.

Case A.—A man, thirty-four years of age, a plasterer, fell from a scaffolding on the 17th of April, 1893. Was taken to the hospital on the ambulance, and a diagnosis was made of sprained ankle, right side. There was considerable swelling over the external malleolus, ecchymosis, and the parts were exquisitely painful. The ankle was well strapped. He was seen a week later, dressings removed, and relief complete.

Case B.—A man, forty-two years of age, longshoreman, fell from the dock to the lighter on April 19, 1893, and sprained his right ankle. There was great swelling over the internal malleolus. He was immediately strapped and was made to walk. Two weeks later the ankle was restrapped. He walked easily very soon after the dressing was applied. The case has been dressed recently and cure was found complete.

Case C.—A seamstress, twenty-five years of age, wrenched her ankle while getting out of a car on the 15th of January, 1894. There was very little swelling, but the parts were very painful and tender. She walked into the hospital on crutches.

The ankle was well strapped. Crutches were laid aside, and she walked to the car which took her home. Was seen a week later, dressing re-enforced, remaining on for a week or two, when she removed the strapping herself, and has suffered no pain or discomfort up to the present time.

Case D.—A woman, twenty-five years of age, very corpulent, sprained her left ankle, and two weeks later there was found much swelling over the external malleolus; ankle very painful. She wore at the time an ill-fitting plaster-of-Paris bandage. This was removed and the parts were well strapped with adhesive plaster from the ball of the foot to the middle third of the leg. She walked away with very little discomfort. At the end of a week the strapping was renewed, and two weeks later all dressings were removed. There was no pain or discomfort, no impairment of function.

Case E.—A nurse, eighteen years of age, sprained her left ankle in March, 1894. The injury was caused by a fall from two or three steps, twisting the ankle. The parts were exquisitely painful, and there was much swelling two days later when she came under treatment. The usual strapping was employed, crutches were dispensed with, and patient walked home, a distance of three blocks from the hospital. She was seen a week later. The swelling was much reduced, though some ecchymosis and tenderness remained. Restrapped, and at the expiration of two weeks all dressings were removed. There was no pain, no discomfort. She was able to follow her vocation without further restriction.

Case F.—A patient sprained the left ankle in the latter part of 1893. About three weeks later—that is, in February, 1894—she came under treatment for what was regarded as a rheumatic ankle. The usual antirrheumatics failed to give relief, and she was obliged to give up her work. The parts were finally strapped, the history of the sprain having then been more fully obtained, and she was able to get about with very little discomfort. Three weeks later she was free from pain and could use her ankle quite as well as ever. There has been no recurrence and no further treatment.

Case G.—A patient, twenty-seven years of age, twisted the

right ankle while playing tennis. It was strapped at once by Dr. Ewell, the house surgeon of the Roosevelt Hospital. The swelling promptly subsided. It was restrapped the following day, and the patient continued his duties with little or no discomfort.

I am assured that at least seventy-five patients have been treated in this way in the clinics about Fifty-ninth Street with uniformly good results. This is the stereotyped treatment in the out-patient department of the Hospital for the Ruptured and Crippled, at my clinic in the College of Physicians and Surgeons, and has been for years followed in the orthopædic department of the New York Polyclinic.

The question is often asked, What is the theory of the method of treatment advocated? It has seemed to me that the equable support given to the tendons and ligaments about the joint results promptly in resolution of all effusion, and that the functions of the tendons and ligaments are thus promptly restored; that use of the ankle is very desirable, and that the cure is brought about by the normal action of the foot.

The New York Medical Journal.

A WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M.D.

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